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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/530,524	09/22/2000	Shih-fu Chang	A31075-PCT-U	7627
21003	7590	07/15/2004	EXAMINER	
BAKER & BOTTS 30 ROCKEFELLER PLAZA NEW YORK, NY 10112			KIBLER, VIRGINIA M	
			ART UNIT	PAPER NUMBER
			2623	

DATE MAILED: 07/15/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/530,524

Applicant(s)

CHANG ET AL.

Examiner

Virginia M Kibler

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 19 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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## **DETAILED ACTION**

### ***Response to Amendment***

1. The amendment received on 4/19/04 has been entered. Claims 1-16 remain pending.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1, 15, and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "said shapes" in lines 8-9.

Claim 15 recites the limitation "the shape" in line 5.

Claim 16 recites the limitation "said shapes" in line 16.

There are insufficient antecedent basis for these limitations in the claims.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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5. Claims 1-5, 14, and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okada et al. (6,343,141) in view of Luo (6,151,403).

Regarding claims 1 and 15, Okada et al. ("Okada") discloses providing image representative data including data representative of chrominance for incremental portions of the image (Col. 5, lines 44-61; Col. 10, lines 29-56) and comparing the chrominance representative data for each incremental image portion to chrominance values known to be representative of skin tones, to thereby distinguish image portions representing skin tone colors from other image portions (Col. 11, lines 47-67, Col. 12, lines 1-24). Okada further discloses comparing the image to template consistent with the shape of a human face image to thereby identify possible face regions (Col. 6, lines 30-42; Col. 9, lines 51-67), but does not appear to recognize comparing the shapes of image portions representing skin tone colors to a template consistent with the shape of a human face image. However, Luo discloses detecting image portions representing skin tone colors and comparing the shapes of image portions representing skin tone colors to a template consistent with the shape of a human face to thereby identify possible face regions (Col. 1, lines 66-67, Col. 2, lines 1-15; Col. 3, lines 58, Col. 5, lines 1-34). Okada and Luo are combinable because they are from the same field of endeavor of skin tone detection in images. At the time of the invention, it would have been obvious to one of ordinary skill in the art to have modified the image portions containing skin tones as disclosed by Okada to include further processing of template matching. The motivation for doing so would have been because it is a well known methodology routinely implemented in the art and would increase the reliability of the system. Therefore, it would have been

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obvious to one of ordinary skill in the art to combine Okada with Luo to obtain the invention as specified in claims 1 and 15.

Regarding claims 2 and 3, the arguments analogous to those presented above for claim 1 are applicable to claims 2 and 3. Luo discloses a rectangular template with an aspect ratio of 1.5 (Figure 10).

Regarding claim 4, Okada discloses comparing the spatial frequency characteristics of data representing luminance in the face region to a threshold value and eliminating possible face regions having spatial frequency characteristics below the threshold (Col. 6, lines 43-65).

Regarding claim 5, Okada discloses comparing spatial frequency characteristics or signal energies (Col. 6, lines 43-65), thereby the ratio of vertical energy to horizontal energy.

Regarding claim 14, Okada discloses dividing the image into segments having skin tone image portions and segments not having skin tone image portions (Col. 9, lines 51-67).

6. Claims 7-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okada et al. (6,343,141) and Luo (6,151,403) as applied to claim 1 above, and further in view of Reitmeier (6,122,400).

Regarding claims 7 and 8, Okada discloses DCT compression technique for a sequence of video images, but does not specify an MPEG signal. Reitmeier discloses determining skin tone portions comprising MPEG macroblocks (Abstract; Col. 8, lines 16-54) including data applied to an I frame of the MPEG signal (Col. 4, lines 49-67, Col. 5, lines 1-13; Col. 8, lines 16-35). Okada, Luo, and Reitmeier are combinable because

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they are from the same field of endeavor of skin tone detection. At the time of the invention, it would have been obvious to one of ordinary skill in the art to have modified the sequence of video images disclosed by Okada and Luo to include a MPEG signal. The motivation for doing so would have been because it is a standard well known compression technique in the art.

Regarding claim 9, Okada discloses comparing chrominance representative data comprising comparing the DC component of the chrominance representative data (Col. 4, lines 16-54; Col. 10, lines 64-67, Col. 11, lines 1-35). Okada discloses comparing the AC signal energy of data where the AC signal energy is determined based on the DC signal energy (Col. 10, lines 57-67 and Col. 11, lines 1-46), thereby comparing the DC energy.

Regarding claim 10, the arguments analogous to those presented above for claims 1 and 7 are applicable to claim 10.

Regarding claim 11, the arguments analogous to those presented above for claim 2 are applicable to claim 11. Luo discloses using the top and side edges of the template (Figure 10).

Regarding claim 12, Luo discloses using a rectangular template include top and side edges having regions representing skin tones (Figure 10), but does not recognize employing macroblocks. Reitmeier discloses determining skin tone portions comprising MPEG macroblocks (Abstract; Col. 8, lines 16-54). The arguments analogous to those presented above for claim 7 are applicable to claim 12.

Regarding claim 13, Okada discloses applying a spatial filter (Col. 7, lines 46-58), does not recognize applying a special cross median filter to adjacent macroblocks.

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However, it would have been an obvious matter of design choice to use the cross median filter because it is conventional methodology for noise reduction without blurring edges and sharp details. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the shape comparison and sequence of video images disclosed by Okada to include comparing MPEG macroblocks as taught by Reitmeier because MPEG is a well-known standard in the art and the use of macroblocks enables a quick classification of areas as high importance or low importance.

***Allowable Subject Matter***

7. Claim 16 would be allowable if rewritten or amended to overcome the rejection under 35 U.S.C. 112, second paragraph, set forth in this Office action.

***Response to Arguments***

8. Applicant's arguments with respect to claims 1-15 have been considered but are moot in view of the new grounds of rejection.

***Other Prior Arts Cited***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

U.S. Pat. 5,430,809 to Tomitaka for human face tracking system.


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***Contact Information***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Virginia M Kibler whose telephone number is (703) 306-4072. The examiner can normally be reached on Mon-Thurs 8:00 - 5:30 and every other Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amelia Au can be reached on (703) 308-6604. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Virginia Kibler  
07/10/04

MEHRDAD DASTOURI  
PRIMARY EXAMINER

